

**Application No.:** 10/587,903  
**Filing Date:** July 28, 2006

### **REMARKS**

Applicants express appreciation to the Examiner and the Examiner's Supervisor for conducting the recent personal interview with Applicant's representative, Ned A. Israelsen. A summary of the interview is submitted in this paper. Applicant has presented herein the claim amendments discussed during the interview. Additional claim amendments and the written response below are also provided in accordance with the interview discussion. Pursuant to the interview discussion and the amendments submitted with this paper it is believed the outstanding rejections have been addressed, the cited art has been overcome, and the application is in condition for allowance.

#### **Pending Claims**

Claims 21-52 are currently pending. Claims 1-20 were previously cancelled. Claims 26 and 28 are cancelled with this amendment. Claims are amended as indicated in the listing of claims above. No new matter has been added.

#### **Claim Rejection under 35 U.S.C. § 112 ¶2**

Claims 28-30 and 50 have been rejected under 35 U.S.C. § 112 ¶2 as being indefinite. Claim 28 has been cancelled and Claims 29, 30 and 50 have been amended above to clarify the antecedent basis for each of the elements noted by the Examiner. In light of these amendments Applicants respectfully request the Examiner's rejection be withdrawn.

#### **Claim Rejection under 35 U.S.C. § 102(b)**

Claims 21-31 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 1,616,774 to Warren ("Warren"). "A claim is anticipated [under § 102(b)] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." M.P.E.P. § 2131 (quoting *Verdegall Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987)). Because each and every element of Claims 21-31 is not found in Warren, this reference does not anticipate these claims.

Amended Claim 21 recites, inter alia, a pumping apparatus "wherein an inside diameter of [a] cylinder is greater than an inside diameter of [a] reload chamber and wherein [a] transfer

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chamber is sealingly attached to the cylinder at a location spaced apart from the second aperture.” Warren does not expressly or inherently describe a pumping apparatus “wherein an inside diameter of [a] cylinder is greater than an inside diameter of [a] reload chamber” as recited in Claim 21. Warren likewise does not expressly or inherently describe a pumping apparatus “wherein [a] transfer chamber is sealingly attached to the cylinder at a location spaced apart from the second aperture.” For either of the above reasons, Warren does not expressly or inherently describe all elements of amended Claim 21. Applicants thus respectfully request the Examiner’s rejection of Claim 21 and the Claims dependent therefrom be withdrawn.

**Claim Rejection under 35 U.S.C. § 103(a)**

Claims 32-33 and 35-42 have been rejected under 35 U.S.C. § 103(a) as being rendered obvious by the combination of Warren in view of U.S. Patent No. 6,193,476 to Sweeney (“Sweeney”). To support a *prima facie* case of obviousness the combination of prior art cited by the Examiner must teach or suggest all of the elements of a claim. M.P.E.P. § 2143. As discussed more fully below with regard to each rejected independent claim, the art cited by the Examiner does not teach all of the elements of the claims.

Claims 32-33 each ultimately depend from Claim 21 and thus incorporate all limitations of amended independent Claim 21. As noted above Claim 21 recites, inter alia, a pumping apparatus “wherein an inside diameter of [a] cylinder is greater than an inside diameter of [a] reload chamber.” Warren does not teach or suggest this feature. Instead, Warren teaches an inside diameter of a chamber 22, which is smaller than an inside diameter of an inlet chamber 11. Sweeney does not cure the deficiencies of Warren with respect to Claim 21. More specifically, Sweeney does not teach a pumping apparatus “wherein an inside diameter of [a] cylinder is greater than an inside diameter of [a] reload chamber” as recited in Claim 21. Instead, the apparatus of Sweeney has one continuous cylinder with a uniform interior diameter in the plunger region. Thus, because neither Warren nor Sweeney teaches or suggests a pumping apparatus “wherein an inside diameter of [a] cylinder is greater than an inside diameter of [a] reload chamber” as recited in Claim 21 their combination does not render Claim 21 obvious. Applicants thus respectfully request the Examiner’s rejection of Claim 21 and the claims dependent therefrom be withdrawn.

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Similarly, with respect to Warren and Sweeney, independent amended Claim 35 includes at least the patentable distinction discussed in connection with Claims 32-33 above. See, e.g., Claim 35 (a system for pumping “wherein the bottom portion extends through a first aperture in a bottom of the first chamber . . .”). Applicant thus respectfully requests the Examiner’s rejection of Claim 35 and the claims dependent therefrom be withdrawn.

**Claim Rejection under 35 U.S.C. § 103(a)**

Claim 34 have been rejected under 35 U.S.C. § 103(a) as being rendered obvious by the combination of Warren in view of Sweeney and further in view of U.S. Patent 3,135,210 to English (“English”). Claim 34 is ultimately dependent from Claim 21 and thus incorporates all limitations of independent Claim 21.

As noted above the combination of Warren and Sweeney does not teach or suggest a pumping apparatus “wherein an inside diameter of [a] cylinder is greater than an inside diameter of [a] reload chamber” as recited in Claim 21. English does not cure the deficiencies of Warren and Sweeney with respect to Claim 21. Indeed, the Examiner only cites English as teaching a centrifugal pump. Office Action of January 7, 2009 at page 7. Even assuming the Examiner has correctly cited English for this purpose, English does not teach or suggest a pumping apparatus “wherein an inside diameter of [a] cylinder is greater than an inside diameter of [a] reload chamber” as recited in Claim 21. Thus, because Warren, Sweeney and English do not teach or suggest a pumping apparatus “wherein an inside diameter of [a] cylinder is greater than an inside diameter of [a] reload chamber” as recited in Claim 21, their combination does not either. Because all elements of Claim 21 are not taught or suggested by the cited references, the cited art does not render Claim 21, or the claims dependent therefrom, obvious. Applicants thus respectfully request the Examiner’s rejection be withdrawn.

**Claim Rejection under 35 U.S.C. § 103(a)**

Claims 42-46 and 50-52 have been rejected under 35 U.S.C. § 103(a) as being rendered obvious by the combination of Sweeney in view of U.S. Patent No. 3,148,629 to Sutliff (“Sutliff”). The combination of Sweeney and Sutliff, however, does not teach or suggest all elements of the rejected independent Claims.

Amended Claim 42 recites, inter alia, a piston type pumping apparatus comprising “a piston rod connected to [a] piston and extending slidably and sealingly through a first aperture in the bottom of [a] vertically oriented cylinder, the piston rod further extending slidably and sealingly into a reload chamber through a second aperture in the reload chamber, wherein the reload chamber is situated below the vertically oriented cylinder.” Neither Sweeney nor Sutliff teaches or suggests “a piston rod connected to [a] piston and extending slidably and sealingly through a first aperture in the bottom of [a] vertically oriented cylinder, the piston rod further extending slidably and sealingly into a reload chamber through a second aperture in the reload chamber” as recited in Claim 42.

Further, amended Claim 42 requires that the piston rod has “a diameter smaller than an inside diameter of the reload chamber.” Neither reference meets this limitation.

Sweeney teaches a piston pump with a single cylinder/pump body 8 enclosing a piston/piston rod. The piston pump base 37 is connected to the piston pump top 39 by a piston rod that passes through a single pressure barrier 18. Sweeney at Fig. 1 and col. 3 line 47 – col. 4 line 52. In contrast, Claim 42 recites a piston rod extending through a first aperture in the bottom of a cylinder and through a second aperture in a reload chamber. Sutliff teaches only a single chamber with an upper barrel and a lower barrel connected by a tapering tubular adapter. A plunger is disposed within the chamber, but the plunger does not pass through a first aperture in a cylinder or a second aperture in a reload chamber. Thus, because neither Sweeney nor Sutliff teaches or suggests “a piston rod connected to [a] piston and extending slidably and sealingly through a first aperture in the bottom of [a] vertically oriented cylinder, the piston rod further extending slidably and sealingly into a reload chamber through a second aperture in the reload chamber” as recited in Claim 42, their combination does not teach or suggest all elements of Claim 42.

The PTO inquired at the interview whether Sweeney’s fluid passageway 15 joining the piston top 38 to the piston base 37 could be considered the piston rod of present Claim 42. However, this interpretation is not possible, because Claim 42 requires:

the piston rod connected to the piston is configured to permit passage of liquid therethrough, **wherein the bottom surface of the piston rod is situated within the reload chamber,** wherein the bottom surface of the piston rod is configured such that **liquid in the reload chamber acts upwardly against the bottom surface of the piston rod** in a direction of movement of the piston and piston rod, and wherein the **bottom**

**surface of the piston rod has an area smaller than the top surface of the piston . . .**  
(emphasis supplied).

In contrast, the fluid passageway 15 (piston rod) of Sweeney never extends “within the reload chamber” where fluid in that chamber can “act upwardly against the bottom of the piston rod.” Indeed, Sweeney does not have a piston rod in the reload chamber, but instead has a second piston in the reload chamber, which has the same diameter as the top piston and the same diameter as the reload cylinder. Sutliff similarly has a bottom piston that has the same diameter as the reload chamber. Thus, even if Sweeney were modified with a smaller bottom piston, it would not meet the limitations of Claim 42.

Because all elements of Claim 42 are not taught or suggested by the combination of references, their combination does not render Claim 42, or the claims dependent therefrom, obvious. Applicants thus respectfully request the Examiner’s rejection of Claims 42-46 be withdrawn.

Similarly, with respect to Sweeney and Sutliff, independent amended Claim 50 includes patentable distinctions of the same type discussed in connection with Claims 42-46 above. See, e.g., Claim 50 (a method for pumping fluid “wherein the bottom portion [of the piston and piston rod component] extends through a first aperture in a bottom of the first chamber [and] wherein the bottom portion of the piston rod portion of the piston and piston rod component is disposed within the second aperture” of the third chamber). Applicant thus respectfully requests the Examiner’s rejection of Claim 50 and the claims dependent therefrom be withdrawn.

**Claim Rejection under 35 U.S.C. § 103(a)**

Claims 47-49 have been rejected under 35 U.S.C. § 103(a) as being rendered obvious by the combination of Sweeney, Sutliff and English. Claims 47-49 ultimately depend from Claim 42 and thus include all limitations of amended independent Claim 42. As noted above, the combination of Sweeney and Sutliff does not teach or suggest a pumping apparatus “a piston rod connected to [a] piston and extending slidably and sealingly through a first aperture in the bottom of [a] vertically oriented cylinder, the piston rod further extending slidably and sealingly into a

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reload chamber through a second aperture in the reload chamber” as recited in Claim 42. English does not cure the deficiencies of Sweeney and Sutliff with respect to Claim 42. Indeed, the Examiner only cites English as teaching a centrifugal pump. Because the combination of Sweeney, Sutliff and English do not teach or suggest all elements of amended Claim 42, the combination of Sweeney, Sutliff and English does not render Claim 42, or any of the claims dependent therefrom, obvious. Applicants thus respectfully request the Examiner’s rejection of Claim 47-49 be withdrawn.

**No Disclaimers or Disavowals**

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

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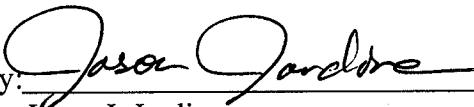
### CONCLUSION

The Applicants have endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims, the reasons therefor, and arguments in support of the patentability of the pending claim set are presented above. If the Examiner has any questions which may be answered by telephone, he is invited to call the undersigned directly. Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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